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A CLASSIFICATION OF FACTORS INFLUENCING PARTICIPATION IN COLLUSIVE TENDERING AGREEMENTS

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Abstract

The morality of marketing practices in the construction industry is an issue of economic and social significance which attracts public and legislative concern. Criticisms, as well as negative publicity, are mostly concentrated around collusive tendering: illegal agreements between tenderers that result in seemingly, but not really, competitive bids, price fixing or market distribution schemes that circumvent the spirit of free competition and defraud clients. Even though collusive tendering has been identified as an endemic malaise of building, its behavioural and moral dimensions have not been systematically studied before. These are the focus of this paper which presents a literature review that was carried out in order to identify the variables influencing behavioural intent towards collusive tendering agreements and means of reaching them. The paper describes part of an exploratory empirical investigation involving a random sample of estimators in the largest construction organisations in Australia.

First, the respondents' perceived impact of the list of variables on their expressed behavioural intent are presented. Then, their preferred ethical frameworks are presented and discussed. Finally factor analysis is used to classify the decision making variables. The results indicate a strong teleological orientation of the respondents.

Keywords: Marketing ethics, decision making, construction industry, collusive tendering, Australia.

Introduction

The marketing function of construction organisations revolves around competitive tendering, the most widely used method of awarding building and civil engineering work, especially for the public sector. In Australia, the integrity and competitiveness of the system is protected by law and industry codes of practice. "Collusive tendering and bidding are unlawful" (CCH, 1975: 4), and any attempt to fix or control prices is a *per se* violation for which "the plaintiff or prosecutor does not have to prove a substantial lessening of competition" (Edwards, 1982: 66). In a fully competitive construction contract market, a principal and any number of tenderers respect the spirit and the letter of the law [the Trade Practices Act (CCH, 1995)] and follow the code of tendering (AS 4120, 1994) with no deviations from what is prescribed as 'honest' and 'fair' conduct by all parties involved. Deviation from these obligations might constitute or precipitate collusive tendering.

Construction industry folklore (reported, for example, in Hillebrandt, 1988; Skitmore, 1989), and survey results (Ray et al., 1998), however, indicate that the severity

of the law, or the attempts at industry self-regulation, have little effect on current practice. Moreover, the conclusion of a major Royal Commission Investigation into the performance of the building industry was that: “[Collusive tendering] was not just some temporary aberration. It was widespread, systematic and covert. (...). Clients were undoubtedly cheated on a large scale” (Gyles, 1992: Vol#7: 85).

Research on collusive tendering has concentrated on detection, through the design of statistical methods for analysing bidding data in order to detect pricing irregularities, (Hendricks and Porter 1988; Allen and Mills, 1989; Lee, 1990) and examinations of the legal aspects of collusion (Kuhlman and Johnson, 1984; Porter, 1983; Kuesel, 1969) with limited references made to its impact on the strategic decision making process (Skitmore, 1989).

Valuable as these approaches are in understanding the economic mechanisms of collusion, they do not take the individual decision maker into account. It is implicitly assumed that collusion is something that takes place irrespective of people, in an institutional interplay of firms operating within given market structures.

However, when collusive tendering is defined as:

“an explicit agreement between [competitors] either not to tender, or to tender in such a manner as not to be competitive with one of the other tenderers”

then the centrality of the individual, as a moral agent becomes obvious. Participating in the process of reaching a collusive tendering agreement constitutes immoral behaviour in the sense that compliance with the law is the non-negotiable minimum of morality required in business (Friedman, 1970; Laczniak, 1983; Fieser, 1996). The decision making process is expected to be influenced by factors that have been identified in the literature as determining moral decision making in marketing. It is also expected to be subject to the individual’s chosen cognitive ethical frameworks. At the same time, it still is part of the tendering decision making mechanism.

Literature review

The objectives of the literature review were: (i) to catalogue the relevant individual variables and ethical frameworks that were found, in positive models or identified through empirical research, to have an influence on moral decision making in marketing situations; (ii) to identify the variables influencing tendering decision making and (iii) to make a list of all the variables that were expected to influence the decision to participate, or not to participate, in a collusive tendering agreement. Three distinct issues were identified (collusive tendering; decision making factors and ethical frameworks). The following broad questions were explored through the literature of Construction Management, Construction Economics, Tendering theory, Economics, Marketing Law and Marketing Ethics:

I₁: COLLUSIVE TENDERING

Q₁: Which tendering practices constitute collusive tendering?

Q₂: What are the outcomes of collusive tendering agreements?

Q₃: How are collusive tendering agreements reached?

I₂: DECISION MAKING FACTORS

Q₄: What are the factors influencing tendering decisions?

Q₅: What are the factors influencing moral decision making in marketing?

I₃: ETHICAL FRAMEWORKS

Q₆: Which ethical frameworks are employed in marketing decisions with a moral content?

Q₇: How can the cognitive ethical frameworks that individuals employ be identified?

I₄: PERSONAL CHARACTERISTICS

Q₈: What are the demographic characteristics that influence decision making with an ethical content?

Q₉: What are the psychographic characteristics that influence decision making with an ethical content?

Q₁₀: What are the demographic characteristics that influence tendering decision making?

This paper focuses on the decision making factors and the ethical frameworks employed (I₂ and I₃). The following section presents the answers to each one of the relevant questions. The study, being the first systematic one of its kind, was of a strongly exploratory nature. It was aimed at uncovering the relevant issues rather than testing specific hypotheses on how certain variables impact on decisions.

Variables influencing tendering decision making

Couzens et al. (1996) have proposed a model of information flow and decision making factors that determine the final bid price. Communications, written or verbal, with internal as well as external sources are instrumental in transforming cost estimates, as well as contractual and commercial information, into an evaluation of the utility and probability of winning the contract. In a purely competitive bidding situation, communications do not include competitors, and the final decision on a mark-up is reached independently by each competing organisation and is designed to win the bid.

External situational factors

When collusion is present, however, the bid price is reached by all of the parties to the agreement together and is designed to win the contract for the predetermined bidder, whilst ensuring that all other parties receive some pre-arranged benefits. The benefits can range from direct payments (unsuccessful tenderers' fees) to future contracts.

In such a situation, the possibility of entering a collusive tendering agreement is expected to be related to the utility of the project in question for the firm, the probability of winning the tender and the expected effect collusion would eventually have on the award of the contract.

Information used in evaluating external situational factors

There seems to be general agreement in the literature that the motivation for collusion is related to the phase of the business cycle (Howard, 1964; Hillebrandt, 1988; McConnell and Brue, 1993; McTaggart et al., 1996) and the workload and profitability of each contracting organisation at that time (McConnell and Brue, 1993; Ray et al., 1998).

Allen and Mills (1989) found the number of firms, industry concentration and its social structure to be associated with the possibility of effective collusion. Indeed, even though the number of competing firms in any construction market is generally large with no entry barriers and low capital requirements, the popular systems of competitive tendering employed effectively limit competition and create favorable economic conditions for collusion. The social structure of the construction industry also acts as a facilitator to collusion. Unlike other professionals (accountants or marketers for example that can easily move to similar jobs in different industries), it is the construction industry itself, not the task orientation, that identifies the profession¹ - and subsequently the education streams - for estimators. This, coupled with a strong tradition of industry and trade associations, add the necessary social dimension to the economic conditions and motives. The social dimension is manifested both in company relationships with other tenderers and in personal relationships with people in competing organisations.

Variables influencing moral decision making in marketing

Interestingly, marketing has also been in the public eye for immorality more than any other business activity, (Ferrell and Gresham, 1985) but, unlike tendering, there is certainly no lack of attention from academia. (Hunt and Vitell, 1992; Ho, 1993). Extensive empirical research has been carried out on managing immoral marketing behaviour in organisations but, as the extensive review by Murphy and Laczniak (1981) pointed out, there are significant controversies on the predictors of these behaviours, related to the diversity in approaches and paradigms used (Penn and Collier, 1985). A comparative review of models is beyond the scope of this paper.

¹ In Australia their professional body is the Australian Institute of Building. It is also common for estimators to move from office to site jobs in the course of their careers. Their tertiary education qualification is usually Construction Management.

However, references are made to theories or empirical tests of the individual variables that were selected to be tested in the research project presented here.

External environmental factors

The law and its enforcement system are of paramount importance since collusion is, essentially, an illegal act irrespective of individual perceptions of the permissibility of some of its variations. The significance of the legal environment has been stressed by Bommer et al. (1987). Even though it is seen as part of the cultural environment in Hunt and Vitell (1992), it has here been treated as a separate issue. In the same way that the professional environment can be operationalised into codes and code enforcement systems (Hunt and Vitell, 1992), so can the perceptions of the impact of the legal environment be viewed as the individual's own perceptions of legality, and fear of being held liable and facing penalties. Moreover, other's perceptions of legality can have an impact similar to Tenbrunsel's (1995) social norms or the 'significant others' (Ferrell and Gresham, 1985; Bommer et al. 1987). In the case of some of the facets of collusive tendering this is extremely pertinent as cover pricing, for example, has been reported to be quite acceptable, despite the fact that it is illegal (Skitmore, 1989; Ray et al., 1998).

The importance of professional, industry and organisational codes, norms and penalties has been repeatedly stressed. In the marketing ethics literature the following have been addressed: significant others at work, as carriers of values and judges of conformity to norms (Ferrell and Gresham, 1985; Trevino, 1986; Bommer et al., 1987; Singhapakdi 1988); codification and policy (Ferrell and Gresham, 1985; Bommer et al., 1987; Singhapakdi, 1988; Ho, 1993) and organisational environment and culture (Hegarty and Sims, 1979; Murphy and Lasczniak, 1981; Trevino, 1986; Singhapakdi, 1988; Forrest, 1989; Trunfio, 1990; Teutsch, 1991; Hunt and Vitell, 1992; Wyld, 1993).

The effect of company policy and practice, on the individual's moral choices, has been found to vary according to the degree of involvement in decision making and the organisational level (Forrest, 1989). Moreover, not all individuals in the same position will make the same choices (Kohlberg, 1976).

Ethical frameworks employed in moral decision making in business

Ethics, as the crystalised and articulated hierarchy of "conflicting patterns of value" (Pirsig, 1992:188), have been seen as a shaping agent of persons and societies (Miller, 1954), to which differences in people's observed moral choices have been attributed (Forsyth and Berger, 1982; Fleming, 1985; Singhapakdi, 1988; Forrest, 1989). It has been noted repeatedly that empirical investigation is needed to establish which theories play a part in practice and what their role is (Hunt and Vitell, 1986; Singhapakdi, 1988; Glover, 1991).

Internal cognitive factors

The testing of ethical frameworks in empirical settings has not been common (McDonald and Pack, 1996: 977) but even though the field is still in its infancy, there has been some research into the impact of cognitive ethical frameworks on moral decision making in business. The operationalisation required for empirical testing

involves a classification of philosophical works into schools of thought and their expression into measurable variables. A number of empirically tested classifications were reviewed (Boyce and Jensen, 1978; Brady, 1986; Schlenker and Forsyth, 1977; Forsyth, 1980; Forsyth and Pope, 1984; Cavanagh et al., 1981; McDonald and Pak, 1996). The McDonald and Pak (1996) classification of ethical frameworks into: Self-interest, Utilitarianism, Categorical Imperative, Duty, Justice, Neutralisation, Religious conviction and Light of day was selected for its being comprehensive yet expressed in simple terms, extensively validated in different cultural settings and the one expected to better reflect the mentality of Australian construction professionals. The statements used to express each one of these frameworks in McDonald and Pak (1996) were adopted for this study.

Synthesis of the literature review findings

When faced with a proposition to enter a collusive tendering agreement, an individual is faced with what is in effect a moral dilemma in a marketing situation. There is an obvious legal issue involved, since collusion is illegal. There are professional, and possibly, organisational codes prohibiting such actions as well as social and industry norms that deem it unacceptable. Moreover, competition being the cornerstone of the socioeconomic system in which the Australian construction industry operates, its preservation is also elevated to a moral issue.

Following the logic of the Hunt and Vitell (1992) model, when a collusive tendering agreement is proposed the deontological evaluation (of what is perceived as right and wrong) is expected to be weighed against a teleological evaluation including the effects of the action's potential outcomes (effect on the award of the contract, desirability, and probability of achieving, the agreed outcomes, as well as the possibility of being caught, and the perceived severity of the likely penalties) on both the individual and the firm.

A diagrammatic representation of the findings of the literature review, that were used as the working model for the study, are presented in Figure 1.

---insert Figure 1 here---

Empirical research method

Research population and sample

The research population was defined as:

all individuals employed in construction contracting organisations who are directly involved in the preparation and adjudication of tender submissions.

The ability of potential respondents to provide relevant and accurate information was estimated on the basis of the findings of the literature review on the motivation

and economic conditions conducive to collusive tendering. Collusion is more likely to occur (a) in oligopolistic markets (McConnell and Brue (1993: 505; McTaggart et al. 1996: 309) with excess capacity (Howard, 1964: 31), inelastic demand (Allen and Mills, 1989) and minimal product differentiation; (b) when project size and complexity enhances the profitability of an effective collusive agreement and thus adds a strong motive for it (Allen and Mills, 1989); and (c) where social and professional interaction of individuals occurs in a market limited geographically and/or by specialisation (Allen and Mills, 1989; Lee, 1990). Thus it is expected that employees of large, specialised organisations that prepare tenders for complex projects, for private clients as well as government and local authorities, are more likely to have been faced with the dilemma of participating in some form of collusive agreement².

To ensure an oligopolistic market with limited product differentiation only the largest organisations were selected, assuming that they would be competing for the same projects, in a market virtually inaccessible to small concerns. This restriction would also enhance the theoretically expected probability of a strong motivation for colluding.

In order to increase the probability of social and professional interaction occurring, all respondents had also to be in the same geographical market. One market where all these conditions were met is Sydney. It is the largest single building market in Australia³. It is also the capital of a State where the existence of collusive practices has been documented through both the courts of law and a major Royal Commission Investigation (New South Wales Royal Commission, 1992: Vol#2). Sydney was, therefore, chosen on the rationale that it is likely to be the city where the maximum number of potential respondents could be readily accessed.

Taking all the above conditions into consideration the research sample was defined as:

all individuals, employed in the Sydney offices of the largest construction contracting organisations, who are directly involved in the preparation and adjudication of tender submissions.

A listing of major contracting organisations that would fulfill the requirements of the redefined research population was found in an independent and reputable source: "Major Companies of the Far East and Australasia 1996/7" (Murphy, 1996). A total of 24 firms were identified as fulfilling the criteria for inclusion in the research sample.

² Even though collusion cannot be discounted as a possibility in the large, open, almost fully competitive markets for small and simple projects that are offered by open tendering, its occurrence is far less likely. Moreover, small firms are geographically dispersed and, thus, less accessible - a problem enhanced by their more informal corporate structures where a formally organised estimating department does not necessarily exist.

³ In the financial year 1995-96 the estimated value of building work was AU\$ 10,287.2m, representing 37% of the total turnover of the industry in the whole country (ABS, 1996: 28).

Empirical data collection instrument

A four page, 100 item, self administered close ended questionnaire was developed (see Appendix). Each page covered one of the three issues under study. Section (A) 'Collusive Tendering' consisted of 18 brief, projective vignettes that provided the dependent variables for the empirical study and elicited the respondents' reaction to certain practices, context and content of communications with other tenderers, and strategic or tactical agreements. It also served the purpose of putting the research instrument in the context of the respondents' experience. Section (B) 'Decision Making Factors' presented the list of variables identified through the literature review explained above and Section (C) the 'Cognitive Ethical Frameworks' part of the McDonald and Pak (1996) instrument. Section (D) collected demographic characteristics as well as the respondents' feelings towards work, their companies and the industry and organisational moral climate. This paper reports the responses to Sections (B) and (C).

Data collection procedure and results

Unannounced calls were made to the targeted firms. Everyone in the estimating department was approached individually and asked to complete the questionnaire. In the brief discussion that preceded the polling, the potential respondents were asked if they had any experience of making a decision concerning tendering which they perceived as having a moral content. The questionnaire was presented to those who said they did. All respondents were informed of the purpose and method of the research. Complete anonymity was guaranteed and there was no way to identify the respondents or their companies. A total of 72 people (representing a response rate of 48.5%) completed the questionnaires.

A convenience sample of 58 (representing a response rate of 97%) final year construction management students in a New South Wales university was used as a control group. The students were all in full time employment in construction firms, but none of them was an estimator. Discriminant analysis was used to test the sampling assumption that the opinions of people with first hand experience of the problems under study would differ from those of other construction professionals with anecdotal or academic knowledge of the issues. The tests clearly discriminated between the two groups, thus indicating that the estimators were a homogeneous group, distinct from other construction professionals. Moreover, a group of nine estimators who were initially reluctant to participate in the research, and only agreed after a more detailed explanation was provided, was used to test for non-response bias. The discriminant analysis that was performed indicated that the two samples were drawn from the same population. Through these procedures it was shown that the sample of 72 estimators that was used for further analysis was homogeneous, representative of the research population and a distinct group within the professionals in the industry.

Empirical research findings

Evaluation of decision making variables

The respondents were asked, in Section (B), to assess the impact each one of a list of 25 statements on the decisions they made on the vignettes of Section (A) on a

five point scale with only the ends defined as 0=irrelevant and 4=crucial. Their responses, arranged in order of magnitude, are summarised in Table 1.

---insert Table 1 here---

Cognitive ethical frameworks

In Section (C) the respondents were asked to select the statements that best represented their values and beliefs out of the 32 of the McDonald and Pak (1996) instrument. The top ten statements (two statements share the 4th and 8th place respectively) are presented in Table 2.

---insert Table 2 here---

The rank order of ethical frameworks is presented in Table 3. Each framework was represented by four statements. The column marked 'frequency' shows the number of respondents that selected each number of component variables, and 'sum' indicates the total number of selections made for each framework.

---insert Table 3 here---

Discussion

Collusive tendering being unlawful in Australia, the law is, understandably, the single most important issue for the majority of respondents. All statements related to legal dimensions (Q22, Q21 and Q20 in Table 1) had high means, low standard deviations and were considered, by approximately half of the respondents, to be 'crucial'. Only a negligible number of respondents saw the law as having limited or no importance.

Intuition (Q42), unlike previous experiences (Q40), was ranked very high as 40% of respondents saw it as crucial and no one thought it 'irrelevant'. Personal value and belief systems (Q30) as well as concerns about the morality of the proposed action (Q19) were ranked quite low and were found to have only a moderate impact on the decision. These two statements, however, had very high standard deviations, thus indicating that answers were dispersed throughout the spectrum of possibilities. A low reliance on deontological statements was also confirmed by the respondents' selection of ethical frameworks (as shown in Table 3).

Organisational and professional norms (Q29 and Q26 in Table 1) were found to be very influential. However, formalised codes (Q24 and Q27) and potential penalties (Q28 and Q25) for deviant behaviour were ranked quite low. The codes and penalties of professional bodies were the lowest ranking variables in the list, but this also reflects

the fact that only half the respondents actually belonged to a professional body. Interestingly, the fear of being caught (Q41) was of negligible impact. This evaluation was also reflected by the low preference for the Light of day ethical framework (as shown in Table 3).

Company relationships (Q35 in Table 1), personal relationships (Q36), workload and profitability (Q37) and strategic objectives of the firm (Q38) were evaluated as decision making factors of considerable impact. This attitude is consistent with the selection of statements in the ethical frameworks section (as shown in Table 2). The word 'company' appears in the four most popular statements. The majority of respondents seem to place company related principles at the top of their hierarchy of values. Finally, direct orders (Q43) appeared to be 'crucial' for a small number of respondents but, overall, they were considered as quite influential.

Market-related variables were assessed as being of some, but not much, importance. The most important variable in this group was the possible effect of the action on the final bid outcome (Q39). Market variables (Q23, Q34 and Q 33 in Table 1) were ranked lower than organisational ones (Q31, Q38, Q32 and Q37).

Industry folklore that neutralises the immorality of an action by labeling it 'common practice' seems to be accepted as a value by the respondents who bring it in the 5th position in Table 2. Only one categorical imperative principle makes it to the top 10 list, together with two of the 'justice' statements (italicized ones in Table 2). Moreover, all statements representing religious conviction or the light of day principle were selected by less than one in ten respondents. Finally, none of the respondents believed that people should not be treated as means to an end or at least they were not influenced in this particular type of decision by this principle.

Classification of decision making variables

Factor analysis (King, 1977; Norusis, 1994; Malhotra, 1996) was performed on the decision making variables. The results of the analysis are presented in Table 4 and discussed below.

---insert Table 4 here---

Seven factors were extracted, explaining 74% of the variance and including all but two of the variables (Q37-workload of the company and Q43-orders from one's boss). No variables were found in more than one factor, thus providing a very neat split among the represented concepts. The variables were distributed in the factors as follows:

Factor 1_2 Codes & Penalties included the four variables that refer to professional and organisational codes and penalties. Hunt and Vitell (1992) position norms, codes and their enforcement systems as three distinct variables of two factors: the organisational and professional environment. The respondents to this research project, however, did not differentiate between codes and penalties (they grouped all variables together in Factor 1_2) but clearly distinguished them from norms

(Factor 7_2). Moreover, they treated the organisational and professional environment as one concept. This difference can easily be explained by the fact that the estimators' professional bodies are industry, not skill or function specific.

The restrictive nature of the practice was also included in this factor, an issue covered by professional codes and industry best practice standards (AS4120).

All the variables in this factor had very strong associations with the factor itself and explained 22% of the variance in the total data set.

Factor 2_2 Project included all the variables related to the project that is being bid for: desirability, probability of winning, the client's reputation and the economic conditions in the market.

Factor 3_2 Company was composed by all the variables that are related to the respondents' organisations. Interestingly, the main proposition of economic theory, workload and profitability did not enter this factor, where it could have logically belonged (its loading was only 0.17063).

Factor 4_2 Law represents the law, in all its aspects: formal codification, law enforcement and social perceptions of legality. Unlike the professional and organisational environments, where respondents distinguished between codes and norms, when the law is being considered there is no difference.

Factor 5_2 Values and beliefs included only one variable, with a high loading on the factor: Personal value and belief systems. This single variable factor explains 5% of the variance. The next variable (Q23 the one about the restriction of free competition- the value of capitalism) had a loading of 0.45293, which is near, but not quite high enough for the variable to be included in the factor.

Factor 6_2 Feelings includes the morality issue, fear of exposure and intuition - three closely related feelings that, can be argued, are dependent on each other.

Finally, the norms of the profession and the firm, but not the social norms of law abundance, constituted **Factor 7_2 Norms**. Professional norms had a much stronger impact on the factor than company norms, which makes sense, since one's professional reputation has a longer term effect, and a wider one, than the intraorganisational one.

Conclusion

This paper has outlined the results of a multidisciplinary literature review that identified the variables that impact on collusive tendering behavioural intent. The individual decision makers' assessment of the moral content and permissibility of a set of collusive tendering agreements and the means of reaching them has also been presented. The 72 estimators in the sample were chosen, not only because they work in an environment where the possibility of effective collusive tendering is maximised, but also because they admitted having faced similar moral dilemmas in the course of their professional lives.

Overall, Australian estimators were found to have a strong teleological orientation in their approach to moral decision making. The welfare of their company

overrides abstract philosophical principles. Moreover, the law, industry norms and direct orders rank higher than moral concerns, or personal values. Their decision making system appears to comprise seven distinct factors: codification and the resulting penalties, the project they are bidding for, company concerns, the legal framework, their values and beliefs, feelings, and finally, the organisational and professional norms.

The results of the empirical investigation have explored dimensions of moral decision making pertinent to contract bidding in construction. Strong indications that marketing ethics tools can be successfully applied to the particular problem of collusive tendering have also been provided.

The research project discussed here has set the basis for an in-depth analysis of the mechanisms of collusive tendering.

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FIGURE & TABLES

Figure 1: Model of moral decision making in tendering

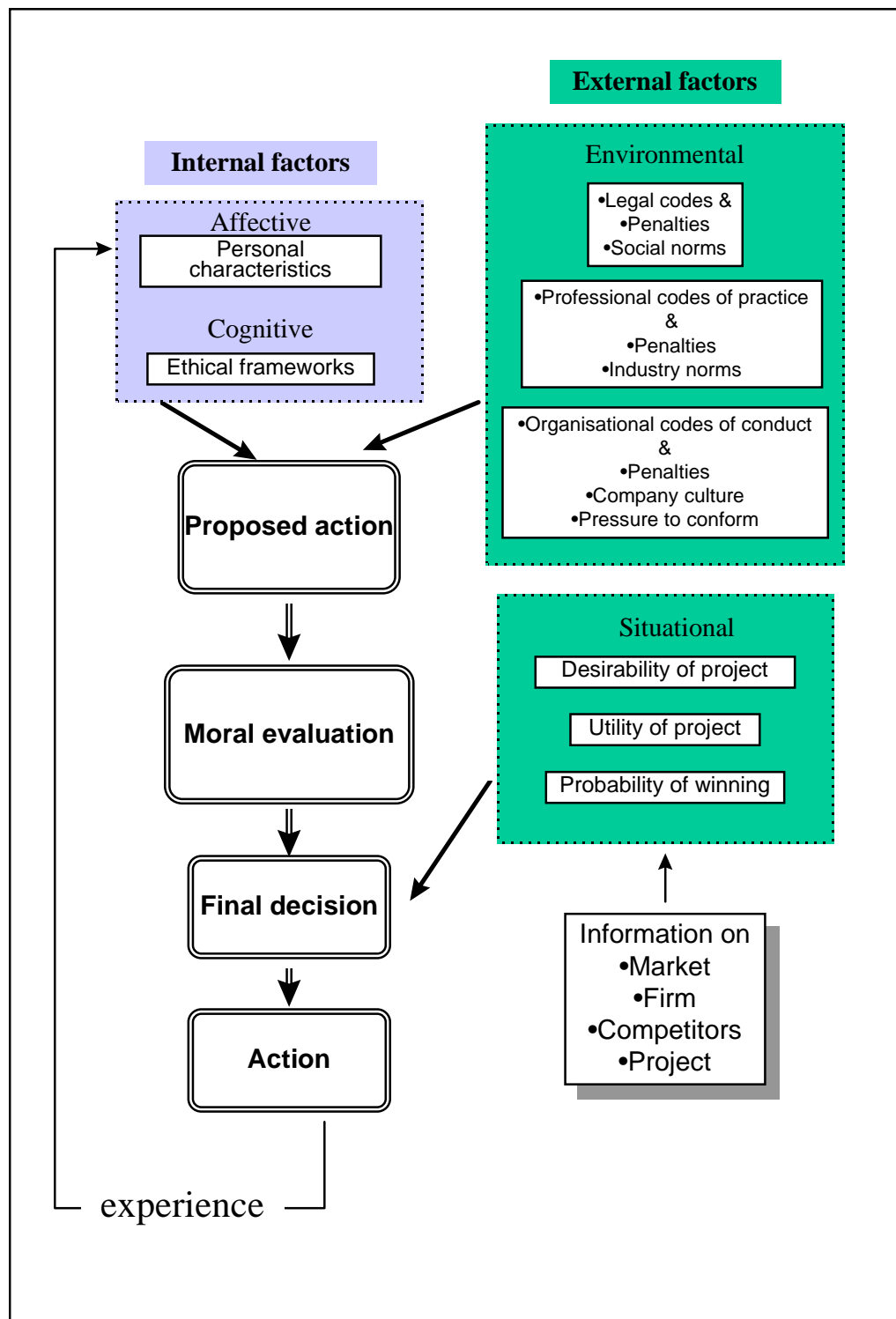


Table 1: Decision making factors influencing collusive tendering behavioural intent

QUESTION TEXT	Valid percent					MEAN	STD. DEV.
	4	3	2	1	0		
Q 22. Whether I would be held legally liable for the action.	56	29	14	0	1	3.38	0.83
Q 21. Whether the action could be perceived as illegal.	43	40	14	0	3	3.20	0.89
Q 20. Whether there is a legal issue involved.	44	34	20	0	3	3.15	0.94
Q 42. What my intuition told me to do.	40	25	31	4	0	3.01	0.94
Q 29. Whether in my company this behaviour is considered acceptable.	37	30	28	4	1	2.96	0.98
Q 26. Whether in my profession this behaviour is considered acceptable.	36	29	30	3	3	2.91	1.02
Q 35. Company relationships (existing or potential) with other tenderers.	24	19	42	8	7	2.44	1.15
Q 36. Personal relationships with people in other organisations.	27	20	30	16	9	2.41	1.27
Q 43. What my boss told me to do.	7	41	38	6	9	2.32	1.00
Q 39. How much the action would affect the final award of the contract.	15	26	35	18	6	2.28	1.10
Q 31. The desirability of the project.	10	25	51	8	6	2.25	0.95
Q 38. The strategic objectives of my company.	7	31	47	11	4	2.25	0.91
Q 32. The probability of winning the tender.	7	31	46	13	4	2.24	0.91
Q 37. The workload and profitability of my company.	7	33	39	17	4	2.22	0.95
Q 30. My personal value system and my beliefs of what is right and wrong.	29	10	29	17	15	2.21	1.42
Q 28. Whether there would be any penalties from my company.	10	35	35	6	15	2.18	1.18
Q 19. Whether there is a moral issue involved.	27	13	24	23	14	2.15	1.41
Q 23. Whether the action is restricting free competition.	18	13	42	18	10	2.11	1.19
Q 34. What the market conditions were.	4	26	50	15	4	2.11	0.86
Q 33. Reputation of the client.	0	30	51	16	4	2.06	0.79
Q 27. Whether the action is prohibited by my company's code of practice.	6	37	31	7	19	2.04	1.20
Q 40. Previous experiences with similar situations.	7	19	47	21	6	2.01	0.96
Q 41. The probability of anyone finding out what my action was.	15	17	35	15	18	1.96	1.29
Q 24. Whether the action is prohibited by my profession's code of practice.	10	32	25	7	26	1.93	1.36
Q 25. Whether there would be any penalties from my professional body.	10	19	25	3	42	1.54	1.46

Table 2: The top ten moral principles selected by the respondents

1. What was best either for myself or for my company	60%
2. That as an employee my first responsibility and ultimate duty are to my company and its shareholders	50%
3. That ultimately one should ask whether actions are consistent with organisational goals and do what is good for the organisation	41%
4. In today's business world one must look after one's self and one's interests.	39%
My first priority and duty should be in fulfilling company obligations	39%
5. That many actions that are described as unethical are in reality common business practices	35%
6. What would be the most efficient and effective outcome in the long run	29%
7. <i>Some things in life are definitely right or wrong regardless of the consequences of the decision</i>	27%
<i>It is important that discriminatory practices be avoided</i>	27%
8. What effect the action might have on my personal reputation and my career	25%
9. That an unethical action is O.K. if it is directed at someone, or an organisation that also acts unethically	25%
10. <i>That it is important that justice is seen to be done</i>	21%

Table 3: Self-reported rank order of ethical frameworks

Framework	Sum	Frequency				
		0	1	2	3	4
Duty	115	21	16	12	17	6
Self-interest	91	21	18	26	7	0
Justice	55	42	12	11	7	0
Neutralisation	48	40	19	10	3	0
Utilitarianism	31	50	17	2	2	1
Categorical imperative	28	52	12	8	0	0
Light of day	28	58	7	2	3	2
Religious conviction	11	66	4	0	1	1

Table 4: Factor analysis results on the decision making variables

Factor	Eigenvalue	Pct of Var.	Cum Pct	Variables	Fct. load
1_2	5.49534	22	22	Q27	.93299
Codes & Penalties				Q24	.87325
				Q28	.81586
				Q25	.73735
				Q23	.71401
2_2	4.49560	18	40	Q31	.85995
Project				Q34	.71562
				Q32	.70538
				Q33	.58749
3_2	2.90138	11.6	51.6	Q39	.83430
Company				Q40	.81336
				Q35	.75956
				Q36	.71761
				Q38	.54369
4_2	1.90760	7.6	59.2	Q21	.93589
Law				Q20	.86204
				Q22	.84530
5_2 Values & Beliefs	1.34987	5.4	64.6	Q30	.81448
6_2	1.31569	5.3	69.9	Q42	.77665
Feelings				Q41	.65896
				Q19	.50819
7_2	1.07567	4.3	74.2	Q26	.87956
Norms				Q29	.66996

APPENDIX: THE DATA COLLECTION INSTRUMENT

Section (A): Tendering Practices

Please read the questions and circle:

YES if you think there is nothing morally wrong with the action and would do it without any consideration; MAYBE if you would only do it under certain circumstances or NO if you think it is morally wrong and you would never do it, regardless of the circumstances.

1. Would you give a competitor a price for a contract you are tendering for if you thought it might be used as a cover price?	YES MAYBE NO
2. Would you give a competitor a cover price to be used in a tender you are also tendering for if openly asked for one?	YES MAYBE NO
3. Would you openly ask a competitor for a cover price to be used in a tender you do not have the interest, the time or the resources to prepare yourself?	YES MAYBE NO
4. Would you try to get a price from a competitor in order to use it as a cover price without telling them what it is for?	YES MAYBE NO
5. Would you discuss the <u>terms</u> of a contract you are tendering for with other tenderers if the issue came up in a social or professional meeting?	YES MAYBE NO
6. Would you discuss the <u>price</u> of a contract you are tendering for with other tenderers if the issue came up in a social or professional meeting?	YES MAYBE NO
7. Would you participate in a meeting organised specifically in order to discuss the <u>terms</u> of a contract you are tendering for with other tenderers?	YES MAYBE NO
8. Would you participate in a meeting organised specifically in order to discuss the <u>price</u> of a contract you are tendering for with other tenderers?	YES MAYBE NO
9. Would you participate in a meeting organised by your industry association to discuss the <u>terms</u> of a contract you are tendering for with other tenderers?	YES MAYBE NO
10. Would you participate in a meeting organised by your industry association to discuss the <u>price</u> of a contract you are tendering for?	YES MAYBE NO
11. Would you accept money in order not to tender for a contract you have been invited to tender for?	YES MAYBE NO
12. Would you agree to a rotating low bid position scheme between your firm and your competitors?	YES MAYBE NO
13. Would you agree to a geographical or other market distribution scheme between your firm and your competitors?	YES MAYBE NO
14. Would you agree to inflate a tender price in order to compensate unsuccessful tenderers?	YES MAYBE NO
15. Would you include hidden fees and commissions in a tender?	YES MAYBE NO
16. Would you agree to submit a cover price in exchange for a substantial amount of subcontracting on the same project?	YES MAYBE NO
17. Would you agree to withdraw an offer you have made in exchange for money or other benefits?	YES MAYBE NO
18. Would you participate in a collusive tendering agreement with competing firms?	YES MAYBE NO

Section (B): Decision making factors

Please reconsider your answers in section A above, questions 1 - 18. How important were the following considerations in selecting your response?

Give 4 to the factors that would be crucial in your decision making and 0 to those you find irrelevant Please indicate the relative importance of each factor by circling only one number in each row.

In making a decision I considered	CRUCIAL			IRRELEVANT	
	4	3	2	1	0
Whether there is a moral issue involved.	4	3	2	1	0
Whether there is a legal issue involved.	4	3	2	1	0
Whether the action could be perceived as illegal.	4	3	2	1	0
Whether I would be held legally liable for the action.	4	3	2	1	0
Whether the action is restricting free competition.	4	3	2	1	0
Whether the action is prohibited by my profession's code of practice.	4	3	2	1	0
Whether there would be any penalties from my professional body.	4	3	2	1	0
Whether in my profession this behaviour is considered acceptable.	4	3	2	1	0
Whether the action is prohibited by my company's code of practice.	4	3	2	1	0
Whether there would be any penalties from my company.	4	3	2	1	0
Whether in my company this behaviour is considered acceptable.	4	3	2	1	0
My personal value system and my beliefs of what is right and wrong.	4	3	2	1	0
The desirability of the project.	4	3	2	1	0
The probability of winning the tender.	4	3	2	1	0
Reputation of the client.	4	3	2	1	0
What the market conditions were (boom or recession).	4	3	2	1	0
Company relationships (existing or potential) with other tenderers.	4	3	2	1	0
Personal relationships with people in other organisations.	4	3	2	1	0
The workload and profitability of my company.	4	3	2	1	0
The strategic objectives of my company.	4	3	2	1	0
How much the action would affect the final award of the contract.	4	3	2	1	0
Previous experiences with similar situations.	4	3	2	1	0
The probability of anyone finding out what my action was.	4	3	2	1	0
What my intuition told me to do.	4	3	2	1	0
What my boss told me to do.	4	3	2	1	0

Section (C): Personal values

Do any of the following statements reflect your considerations in selecting your response in questions 1-18, in Section (A) above? Please circle the numbers of the statements that best reflect your attitude.

In deciding what my response would be I considered:

What was best either for myself or for my company

That as long as no one gets hurt an action is O.K.

That as an employee my first responsibility and ultimate duty are to my company and its shareholders.

In today's business world one must look after one's self and one's interests.

That it is important that justice is seen to be done.

What my spiritual advisor might do or recommend.

I would feel embarrassed if people found out what I had decided to do.

That sacrifices are often needed in order to secure the greatest good for the greatest number.

Not to treat people as means to an end.

What is the right thing to do in the light of my religious beliefs.

What might be the reaction I would get from my family and friends if the details of this action were revealed.

Whether the outcome of my decision produces the greatest net value to all parties involved.

What effect the action might have on my personal reputation and my career.

That an unethical action is O.K. if it is directed at someone, or an organisation that also acts unethically.

What would be the most efficient and effective outcome in the long run.

How would I feel if someone did that to me.

That people must be treated fairly.

What would be the most equitable decision.

That ultimately one should ask whether actions are consistent with organisational goals and do what is good for the organisation.

That many actions that are described as unethical are in reality common business practices.

What advice is available from a religious or philosophical source.

Would I lose face if my involvement in this decision was publicised

Do unto others as you would have them do unto you.

It is wasted energy worrying about the effect that an action might have, one should just get on with what one has to do.

Whether an inherent harm in an action is outweighed by the good

If the consequences of the decision affect the majority in a positive way.

That one cannot be expected to be responsible for everyone and everything.

My first priority and duty should be in fulfilling company obligations.

It is important that discriminatory practices be avoided.

My religious faith would not permit such an action.

I would not want knowledge of my actions to be known to others.

Some things in life are definitely right or wrong regardless of the consequences of the decision.

Section (D) Personal profile

Please provide information about yourself.

76. Age (please circle) under 30 31-40 41-50 51-60 over 60

77. Sex (please circle) Female Male

78. Education (please circle the highest of your formal qualifications)

Year 12 or less Technical college University Postgraduate

79. Position in this organisation (please circle as appropriate)

cadet junior staff middle management top management executive

80. Years in this organisation: less than 5 6-10 11-15 16-20 21-25 over 26

81. Years in the construction industry: less than 5 6-10 11-15 16-20 21-25 over 26

82. Number of construction companies I have worked for: 1 2 3 4 5 more than 5

83. I am a member of a professional body.

Yes No* *(please go to q. 86)

92. I trust the people in this company.

Yes No Not sure

84. My professional body has a code of conduct.

Yes No

93. I like working in this company

Yes No Not sure

85. I think my profession's code of conduct is adequate.

Yes No

94. I feel this company has been fair to me.

Yes No Not sure

86. My company has a code of conduct.

Yes No* *(please go to q. 88)

95. I feel this company is fair in its dealings in general.

Yes No Not sure

87. I think my company's code of conduct is adequate.

Yes No

96. I feel that my values are respected in this company.

Yes No Not sure

88. I consider myself a religious person.

Yes No

97. I do not feel pressure to conform in this company.

Yes No Not sure

89. I live according to a system of values and beliefs.

Yes No

98. I feel I have a say in the decision making in this company.

Yes No Not sure

90. I like my work.

Yes No Not sure

99. I feel that this company maintains high moral standards.

Yes No Not sure

91. I like working in the construction industry.

Yes No Not sure

100. I feel that the construction industry maintains high moral standards.

Yes No Not sure